ABSTRACT
DETERMINATION OF CYPERMETHRIN PESTICIDES IN GREEN TEA LEAVES *(Camellian sinensis)* WITH HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

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Teas are often disturbed by pest, especially the plant ones. Cypermethrine is one of the insecticide that used widely among botanists to control mites. Besides that, cypermethrine is effective againts variety of pest. Pesticide is a substance or material that has a great potential danger to environment and health. Then, the consentration of cypermethrin were determined using high performance liquid chromatography (HPLC) method. Chromatographic separation were achieved with µbondapak C18 (3.9 x 300)mm 10µm 125A column and the mobile phase were a mixture of acetonitrile:water (80:20). The retention time of cypermethrin was 6.020 min, and the flow rate were 0.75 mL/min. The UV detector wavelength were set on 230 nm. The method was validated for: specificity, linearity, accuracy, precision, limits of detection, and limits of quantification. The method was proved to be selective. Linearity showed linear respone (r = 0.9995) while correlation coeffecient of the function (V_{xo})was 2.06 % over the range of concentration used (between 0.3776 mg L^{-1} to 3.7757 mg L^{-1}). Accuracy of method was in range of accepted limits (80% - 120%), % recovery average 101.26%. The detection limit is 0.1140 ppm and the quantification limit is 0.3455 ppm. The result of the analysis are % cypermethrin consentration on day 0 is $2{,}86x10^{-2} \pm 1{,}10x10^{-4}$, on day 1 is $2{,}50x10^{-2} \pm 1{,}10x10^{-4}$, on day 2 is $8{,}45x10^{-2} \pm 5{,}00x10^{-5}$, on day 4 is $4{,}13x10^{-3} \pm 1{,}30x10^{-4}$, on day 8 is $5{,}83x10^{-4} \pm 2{,}00x10^{-5}$ and on day 10 is $3{,}86x10^{-4} \pm 3{,}00x10^{-5}$. The conclusion of this proven that any changes that were happened in the day, can reduce levels cypermethrin.

Keyword : Pesticide cypermethrin, green tea leaf, high performance liquid chromatography.